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CORPORATE – POCATELLO OFFICE

January 26, 2016

Sherri Stumbo  
OSC/RPM  
USDA Forest Service  
Intermountain Region  
4350 South Cliffs Drive  
Pocatello, ID 83204

**RE: SATURATED HYDRAULIC CONDUCTIVITY (Ks) RESULTS  
SMOKY CANYON MINE  
POLE CANYON OVERBURDEN DISPOSAL AREA REMOVAL ACTION**

Dear Ms. Stumbo,

As you know, the performance standard for the completed cover system on the Pole Canyon Overburden Disposal Area (ODA) is achievement of a saturated hydraulic conductivity of  $1 \times 10^{-4}$  centimeters per second (cm/s) or less, as set forth in U.S. Forest Service (USFS)-approved Engineering Evaluation/Cost Analysis (EE/CA) Alternative 3.<sup>1</sup> As required by the approved Dinwoody Quality Control Plan (QCP),<sup>2</sup> Simplot conducted permeability testing to demonstrate achievement of this performance standard. Per the Dinwoody QCP, the geometric mean of 13 permeability measurements, each representing specific subareas of the Pole Canyon ODA cover system, is required to be  $1 \times 10^{-4}$  cm/sec or less. The test areas are shown on the attached figure.

Simplot conducted the permeability testing between mid-June and late November 2015 as the cover system was constructed. Per the approved Dinwoody QCP, the borehole permeameter testing protocol followed the constant head method of American Society for Testing and Materials (ASTM) Designation D-6391, Field Measurement of Hydraulic Conductivity Using Infiltration from a Borehole (as modified for site-specific conditions by Dr. Craig Benson). This procedure has been reviewed and approved by the Agencies and their third party oversight contractor (American Geotechnics) for compliance with placement of the Deep Dinwoody cover system for Panels F and G.

The results of the permeability test results are summarized on the following table.

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<sup>1</sup> The final EE/CA was prepared on behalf of the J.R. Simplot Company (Simplot) by Formation Environmental, LLC (Formation) and submitted to the Agencies in April 2012. The USFS issued its Action Memorandum based on the EE/CA on January 7, 2013.

<sup>2</sup> Provided as Appendix C of the USFS-approved Removal Action Work Plan (RAWP), prepared on behalf of Simplot by Formation and submitted to the Agencies in August 2014.

Test ID	Project	Final Test Date	Ksat@10deg (cm/sec)
CU1	Pole Canyon	11/3/2015	3.43E-07
CU1 Prelim (Under new blast compound)	Pole Canyon	6/16/2015	1.57E-06
CU2	Pole Canyon	10/8/2015	1.67E-07
CU3	Pole Canyon	11/3/2015	9.43E-06
CU4	Pole Canyon	11/3/2015	9.50E-08
CU5	Pole Canyon	11/3/2015	2.38E-07
CU6	Pole Canyon	10/22/2015	9.56E-07
CU7	Pole Canyon	11/24/2015	9.20E-08
CU9	Pole Canyon	11/24/2015	1.25E-06
CU8	Pole Canyon	11/25/2015	4.10E-07
CU10	Pole Canyon	11/24/2015	2.50E-07
CU11	Pole Canyon	10/8/2015	5.39E-06
CU12	Pole Canyon	11/3/2015	1.49E-06
CU13	Pole Canyon	11/25/2015	5.40E-07
		Geomean =	6.08E-07

As shown, the geometric mean of the permeability test results is less than  $1 \times 10^{-4}$  cm/sec, indicating that the cover system performance standard has been met.

Please contact me if there are questions regarding these test results.

Sincerely,



Monty Johnson  
Environmental Engineering Manager

cc: Sherri Stumbo – USDA Forest Service, 410 East Hooper, Soda Springs, ID 83276  
James Alexander – USDA Office of the General Counsel (electronic files only)  
Wayne Crowther – IDEQ, 444 Hospital Way, Suite 300, Pocatello, ID 83201  
Colleen O'Hara-Epperly – BLM, 4350 South Cliffs Dr., Pocatello, ID 83204  
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Brian Hansen – Formation Environmental, 2500 55<sup>th</sup> St., Boulder, CO 80301

